Supporting Transition to a National Curriculum: Biology and Chemistry
High School Teacher Workshops 2012

School of Chemistry & Molecular Biosciences, The University of Queensland

Notes from Session 1 activities on Day 2 (Thursday 15 November)

Science as a Human Endeavour (SHE)

- Could link to statement in IP (chem) - "justified significant hypothesis" - students need to link their aim to some real world reason.
- Q - How do we assess? Has it been confirmed that it is assessable or is this an assumption?
- Q - What do you do when it isn't relevant? (balancing equations etc)
- I LOVE this part of the curriculum - it is what keeps students interested and thinking in a critical manner! ☺
- Where is the statement in the latest version?
- This idea stems from many previous studies about the importance of contextualising science to students' lives. We must remember science is about discovery and answering the 'big' questions.

- Human Endeavour - The How & Why kids need to learn stuff.
- History - how we got to where we are today.
- Links to REAL life - opportunities to link with the science community.
- We don't need to assess this but we do need to develop an appreciation of Science and how it operates in the real world (how Knowledge and Technology changes).
- SA question: Rutherford-Bohr model of the atom. What is the evidence that lead the scientific community to accept the Bohr model? (H spectra - orbitals)

How to develop SHE in class:
- Introduce problem solving.
- Develop ideas involving the history of science.
- Research science jobs with students.
- Have different science themes of each term.
- Opportunity for cross-curricular links eg. BIG HISTORY (program)
- Overlapping with other subjects?

Using media topics:
- Current events in papers & TV.
- Debates from different perspectives, eg. religious and secular.
- Take a "sound bite" from a current affairs program (eg. The Project) where they talk about results of a study ("Studies show" or "Scientists say") then find the relevant paper on the research. Compare the media coverage with the actual research. Good opportunity to look at the structure and content of a peer-reviewed scientific paper - but need access to databases/journals etc.

- Taking science back from the social scientists.
- Showing the value of science outside the laboratory.
• How is science important to society.

• SHE allows students to connect theory to everyday life - allows them to understand how things work and is of relevance to them. Can be assessed in assignment, ERT's, EEI's when have to connect research to the relevance of everyday life.

• Already covered in Atomic Theory as ideas were affected/informed by time, available tech & ideas.

• ditto ↑ ☺ T Students just needed to understand that each model required a certain level of science/tech to progress eg. ability to isolate gas & pass electricity through it (not interpret results!).

• another idea: from viewing fungus on food - development of technology to get to the stage of antibiotic resistance.

• Science used as justification & exploring of options when decision-making/problem-solving e.g. Should we go to nuclear power in Oz?